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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,215	01/28/2004	David A. Wood	034158-047	7655

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EXAMINER

PASSANITI, SEBASTIANO

ART UNIT PAPER NUMBER

3711

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,215

Applicant(s)

WOOD ET AL.

Examiner

Sebastiano Passaniti

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on see detailed Office action.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-29 is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This Office action is responsive to communication received 01/28/2004 - application papers filed; 08/05/2004 - Oath.

Claims 1-29 are pending.

Following is an action on the MERITS:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Nagai in view of Kobayashi and Long. Nagai shows every feature claimed with the exception of a loft of 33 degrees or more for the short metal irons, a loft of 33 degrees or less for the long metal irons, the claimed dimensional criteria for the face thickness, a substantially uniform wall thickness across the striking face of both the long and short irons and a relationship between the thickness of the striking plate of the long irons and the short irons. Kobayashi shows it to be old in the art to provide a thickness for the striking face that gradually decreases as the length of the shaft increases. See col. 2, lines 20-28 in Kobayashi. The patent to Kobayashi indicates that the thickness requirements desirably alter the elastic behavior of the striking face, thus, the amount of time that the club heads are in contact with the golf ball during impact between the club head striking face and the golf ball increases as the length of the club increases. This increase in ball contact with the striking face influences the direction of ball flight, since

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the golf ball, when hit by the clubface, is influenced more greatly by the swing orbit of the club head, said influence increasing with an increase in club head length. See col. 2, lines 28-55 in Kobayashi. Moreover, Kobayashi shows that it is old to provide a striking face with substantially uniform thickness (Figures 1a-1d). In view of the patent to Kobayashi, it would have been obvious to modify the device in the cited art reference to Nagai by providing plural clubs in order to define a "set" of clubs, and to further have modified the set of clubs to include long and short irons, with said irons having a specific relationship between one another insofar as the club face thickness, the motivation being to provide for a more stable and controllable flight path for a struck ball. As for the claimed striking plate thickness, note that Kobayashi provides an example, albeit for woods, that encompasses a range of between about 2 mm and 5 mm, said range including all of the claimed average wall thicknesses. Of further interest is the fact that Long obviates the use of a loft of 33 degree or less as well as a loft of 33 degree or more for long and short irons. See TABLE 1 in col. 6 showing a loft less than 33 degrees for club nos. 1-6, with at least club nos. 1-3 conventionally being considered as long irons. Note club nos. 7-9 with a loft of at least 33 degrees, said clubs often being referenced as short irons.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai in view of Kobayashi, Long and Anderson. Nagai in view of Kobayashi and Long has been discussed above. Nagai lacks a suggestion that the casings are either cast or forged and further lacks a specific disclosure that first and second steels. However, it is noted that Kobayashi suggests that the face and club body may be

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fabricated from different materials and then secured together (col. 6, lines 20-27). In addition, the first and second steels, as claimed, could be considered to be the same steel. There is nothing in the claim that stipulates that the steels must be diverse or distinct. Moreover, the fact that the casings are forged or cast may not necessarily further limit the structure of the club heads. These limitations might be argued as relating only to the method of making the head. Nonetheless, the prior art to Anderson is cited to show without question that it is old in the art to process a forged striking face and a cast main body and subsequently welding these two parts together to form a completed club head (col. 1, lines 52-64 in Anderson). The Anderson patent provides the necessary motivation for using a forged face design for higher strength and a cast body design for lighter weight. In view of the patent to Anderson and the above reasoning, it would have been obvious to modify the device in the cited art reference to Nagai by providing a forged first and third casing as well as a cast second and fourth casing, the motivation being to take advantage of the desirable qualities of cast and forged metals.

Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai in view of Kobayashi, Long, Campau and Shaw. Nagai in view of Kobayashi and Long has been discussed above. Nagai as modified lacks a suggestion of varying hardness from long to short irons as well as the specific hardness values claimed. Campau details that the hardness value of the material used for the faceplate as well as the thickness of the striking plate and the overall flexibility of the faceplate have an effect on the velocity of a struck ball. See col. 3, lines 15-27 and col. 4, line 53-67 and

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col. 9, lines 5-32 in Campau. In addition, the prior art reference to Shaw indicates a specific relationship between the flexure of a face piece and the length of the clubs. See col. 2, lines 50-60 in Shaw, wherein it is noted that it is desirable to have low flexural modulus in long irons and higher flexural modulus in short irons. Here, flexural modulus may be controlled through a selection of specific materials. In view of the patents to Campau and Shaw, it would have been obvious to modify the device in the cited art reference to Nagai by varying the hardness of the strike face, with long irons having a greater hardness than the short irons, the motivation being to optimize ball distance when using the long irons and increase ball control when using the short irons.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai in view of Kobayashi, Long, Campau, Shaw and Anderson. Nagai in view of Kobayashi, Long, Campau and Shaw has been discussed. Nagai, as modified, lacks a suggestion that the casings are either cast or forged and further lacks a specific disclosure that first and second steels. However, it is noted that Kobayashi suggests that the face and club body may be fabricated from different materials and then secured together (col. 6, lines 20-27). In addition, the first and second steels, as claimed, could be considered to be the same steel. There is nothing in the claim that stipulates that the steels must be diverse or distinct. Moreover, the fact that the casings are forged or cast may not necessarily further limit the structure of the club heads. These limitations might be argued as relating only to the method of making the head. Nonetheless, the prior art to Anderson is cited to show without question that it is old in the art to process a forged striking face and a cast main body and subsequently welding these two parts together

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to form a completed club head (col. 1, lines 52-64 in Anderson). The Anderson patent provides the necessary motivation for using a forged face design for higher strength and a cast body design for lighter weight. In view of the patent to Anderson and the above reasoning, it would have been obvious to modify the device in the cited art reference to Nagai by providing a forged first and third casing as well as a cast second and fourth casing, the motivation being to take advantage of the desirable qualities of cast and forged metals.

Claims 20-29 appear to be allowable over the prior art references of record because it would not have been obvious to modify any of the prior art references of record to include the limitations of the claimed first and second cavities with the first cavity being located above the second cavity as measured with respect to the sole.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note wall (14) in Kobayashi. Note the shape of the iron club head in Kenmi. Hardman shows inserts of varying hardness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 571-272-4413. The examiner can normally be reached on Mon-Fri (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 571-272-4415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sebastiano Passaniti
Primary Examiner
Art Unit 3711

S.Passaniti/sp
February 22, 2005